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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/909,235	07/19/2001	George F. Ramsay III	AUS920010366US1	8703

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EXAMINER	
QUILLEN, ALLEN E	
ART UNIT	**PAPER NUMBER**
2676	6

DATE MAILED: 03/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/909,235	RAMSAY ET AL.	
	Examiner	Art Unit	
	Allen E. Quillen	2676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see Pages 2-9, filed December 15, 2003 with respect to the rejection(s)of claim(s) 1, 6, 11, 16, 23, 30 under 35 USC § 102 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of the prior art.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-36 are rejected under 35 U.S.C. 103(a) as being anticipated by Lavelle, et al, U.S. Patent 6,020,901, and Nishio et al, U.S. Patent 6,038,034, and in view of Swanson, U.S. Patent 5,603,034.

4. Regarding claim 1, representative of claim 6, Lavelle discloses a method for allocating memory space (*partitioned*, Column 2, line 43; Column 3, lines 45-47; Column 6, lines 61-62) said memory space as a double buffered stereo or single buffered stereo (Column 4, lines 18-36).

[further claim 6] program logic, (Figure 6, element 570, Column 6, lines 30-41; Column 7, lines 53-57, *programmable, control logic to know which video field is to be displayed*].

Lavelle does not disclose comprising the steps of and in response to said selection to allocate as single or double buffered memory. Nishio teaches comprising the steps of and in response to said selection to allocate as single or double buffered memory (Figure 3, Column 7, lines 59-62). The motivation for combining single and double buffered frame buffer memory allocation with selecting single or double buffered is for memory and processing efficiency (column 1, lines 25-36, 50-60). Nishio is evidence that at the time of the invention, it would have been obvious to one skilled in designing X-Windows display machines to combine the benefits of single and double buffered stereo frame buffer memory allocation, as Lavelle

discloses, with the steps of selecting either single or double buffered memory in response to the selecting, as Nishio teaches, for more efficient memory processing.

Lavelle implies but does not explicitly reveal providing a user with selectable option. Swanson teaches providing a user with selectable option (Figure 5, Column 14, lines 17-66; Figures 8-9, elements 1010, 1130, Column 9, lines 11-25). The motivation for combining video display using multiple and partitioned memory in the frame buffers (direct addressing) with user selectable is to enable users to control complex functionality presented on the physical screens, i.e., allows users to customize their applications, in an X Window System (Column 1, lines 54-58; Column 2, lines 20-59). Swanson is evidence that at the time of the invention it would have been obvious to one skilled in designing X-Windows display machines, to combine the benefits of partitioning of the frame buffer, as Lavelle discloses, with user selectable option, as Swanson teaches, to enable user control of their applications.

5. Regarding claim 2, representative of claims 7, 12, 17, 24, 31, Lavelle discloses a method as recited in claim 1, wherein if said memory space is allocated for said single buffered stereo then a greater portion of said memory space is available for at least one of texture memory (Column 1, line 19) and off-screen cache (see above, Column 5, lines 6-14; Column 6, lines 11-30).

6. Regarding claim 30, representative of claims 3-5, 8-10, 13-16, 18-23, 25-29, 32-36, Lavelle discloses a method (a system, a program operable, or computer media with logic (*system and architecture, logic, applications,* Column 2, lines 29, 32, 30, 51) for allocating memory

space (*partitioned*, Column 2, line 43; Column 3, lines 45-47; Column 6, lines 61-62) comprising the steps of: providing a user (*SPARC workstation, mouse,* Column 1, lines 22-29; *computer assisted design, CAD*, Column 1, lines 14-17; *input devices,* Figures 1 and 2, element 20, column 1, line 36) with (then receiving and reading (*read and write state machines,* Column 5, lines 1-6)) a selectable option (a list of start up options (*Windows-based applications,* Column 5, lines 27-33; *PROM,* Column 3, lines 42-44), command line options (Column 2, line 43-52), and a default value overridable by the command line option (*two parallel paths, DP and AP,* Column 5, lines 7-25), corresponding to single or double buffered stereo memory allocations setting [appropriate] flags [for each] (*FIELD,* Column 7, line 33 through Column 8, line 34)) to allocate said memory space as a double (*quad*) buffered stereo or a single buffered stereo (Column 4, lines 18-29); and (determining to allocate then) allocating said memory space as one of said double buffered stereo and (or) said single buffered stereo in response to said selectable option (*FIELD,* Column 7, line 33 through Column 8, line 34); wherein the system, comprising: a processor; a memory unit coupled to said processor, wherein said memory unit is operable for storing a computer program operable for allocating memory space (see above); a display; a graphics adapter coupled to said display, wherein said graphics adapter is configured to control the rendering of text and images on said display, wherein said graphics adapter comprises a frame buffer configured to temporarily store one or more frames of data to be displayed on said display; and a bus coupling the processor to said graphics adapter; wherein the computer program is operable for performing the programming (see above; Figures 1 and 2, elements, 10, 110, 120, 30, 70', 60, *device bus, such as may be used with a computer system, e.g., a Sun*

Microsystems, Inc. SPARC workstation, Column 1, 22-54; *"FFB ASIC",* Column 2, lines 35-36; *PROM,* Column 3, lines 31-39; Column 4, line 53).

Lavelle does not disclose comprising the steps of determining whether to allocate and in response to said selection to allocate as single or double buffered memory. Nishio teaches comprising the steps of determining whether to allocate and in response to said selection to allocate as single or double buffered memory (Figure 3, Column 7, lines 59-62). The motivation for combining single and double buffered frame buffer memory allocation with selecting single or double buffered is for memory and processing efficiency (Column 1, lines 25-36, 50-60). Nishio is evidence that at the time of the invention, it would have been obvious to one skilled in designing X-Windows display machines to combine the benefits of single and double buffered stereo frame buffer memory allocation, as Lavelle discloses, with the steps determining whether to allocate and in response to said selection to allocate as single or double buffered memory and in response to the selecting, as Nishio teaches, for more efficient memory processing.

Lavelle implies but does not explicitly reveal reading a command line option to determine [resource allocation]. Swanson teaches reading a command line option to determine [resource allocation] (Figure 5, Column 14, lines 17-66; Figures 8-9, elements 1010, 1130, Column 9, lines 11-25). The motivation for combining video display using multiple and partitioned memory in the frame buffers (direct addressing) with reading a command line option to determine [resource allocation] is to enable users to control complex functionality presented on the physical screens, i.e., allows users to customize their applications, in an X Window System (Column 1, lines 54-58; Column 2, lines 20-59). Swanson is evidence that at the time of the invention it would have been obvious to one skilled in designing X-windows display

machines, to combine the benefits of partitioning of the frame buffer, as Lavelle discloses, with reading a command line option, as Swanson teaches, to enable user control of their applications.

Prior Art Not Used

Spurlock, U.S. Patent 5,664,139, Allocating and Mapping Frame Buffers in Expanded Memory in Windows Standard and Enhanced Mode.

Garman, U.S. Patent 5,119,494, frame buffer as virtual memory space in an X Window System

Sawyer, U.S. Patent 5,289,574, virtual memory multiple frame buffers in an X Window System

Response to Arguments

7. The Applicant asserts missing memory allocation features of the claimed invention (Pages 2-8), including providing a user with a selectable option to allocate said memory space as a double buffered stereo or a single buffered stereo; reading a command line option to determine allocation of the frame buffer memory space.

The Examiner agrees and has found references, Nishio and Swanson, in combination with Lavelle, disclose and teach these features. Lavelle discloses the partitioning of memory space as a double buffered stereo or a single buffered stereo (Column 1, lines 6-10; Column 2, lines 29-47; Column 4, lines 18-29). Nishio teaches comprising the steps of and in response to said selection to allocate as single or double buffered memory (Figure 3, Column 7, lines 59-62).

Swanson teaches providing a user with selectable option and command line option (Figure 5, Column 14, lines 17-66; Figures 8-9, elements 1010, 1130, Column 9, lines 11-25).

8. The Applicant asserts, regarding claims 2-5, 18-22, that Lavelle does not disclose memory space available for texture and off-screen cache; flag setting for single or double buffered memory allocation; receiving, reading selectable option, determining whether to allocate memory; a file storing set of start-up options with default value overrideable by command line option; default and command line option values correspond to allocating memory space (Page 5-9).

The Examiner respectfully replies, however, that Lavelle discloses memory space available for texture (Column 1, line 19) and off-screen cache (Column 5, lines 6-14; Column 6, lines 11-30); flag setting for single or double buffered memory allocation (*FIELD, FBRAM control logic...to determine left or right field of a stereo display,* Column 7, lines 53-61); receiving, determining whether to allocate memory (Nishio, Figure 3, Column 7, lines 59-62); reading selectable option, a file storing set of start-up options with default value overrideable by command line option (Swanson, Figure 5, Column 14, lines 17-66; Figures 8-9, elements 1010, 1130, Column 9, lines 11-25); default and command line option values correspond to allocating memory space (Swanson, Figure 5, Column 14, lines 17-66; Figures 8-9, elements 1010, 1130 Column 9, lines 11-25, with Nishio, Figure 3, Column 7, lines 59-62).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen E. Quillen whose telephone number is (703) 605-4584. The examiner can normally be reached on Tuesday – Friday, 8:30am – noon and 1:00 - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew C. Bella, can be reached on (703) 308-6829.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or FAX'd to:

(703) 872-9314 (for Technology Center 2600 only)

Hand delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Sixth Floor (Receptionist), Arlington, Virginia

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number (703) 305-9600 or (703) 305-3800.

Allen E. Quillen
Patent Examiner
Art Unit 2676

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March 3, 2004

MATTHEW C. BELLA
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